

II B.Tech I Semester Supplementary Examinations, November 2006
AUTOMOBILE ENGINEERING-I
(Automobile Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Describe the following terms:
 - i. Vehicle
 - ii. Self-propelled vehicle
 - iii. Motor-Vehicle
 - iv. Automobile
- (b) What are the different types of automobile vehicles, Explain. [12+4]
2. (a) What is scavenging ? Explain its working principle in two stroke engine with suitable diagrams ? [10+6]
- (b) Explain the advantages and limitation of four stroke I.C. engine over two stroke explain.
3. (a) Explain the functions of cylinder liner and cylinder block ?
- (b) How many number of revolution made by the cam shaft ? Explain the connectivity between cam shaft and crank shaft [8+8]
4. (a) Why is flywheel necessary in multicylinder engines? [6+6+4]
- (b) What is valve tappet clearance? Why is it necessary?
- (c) Describe a hydraulic valve lifter
5. (a) Describe with a neat sketch the working of S.U. carburetor? [8+4+4]
- (b) Why multicylinder engine require rich mixture than single cylinder engines?
- (c) Why rich mixture is required for idling?
6. (a) Classify different fuel delivery systems for petrol engine ? Explain. [8+8]
- (b) What are different problems faced by fuel transfer pump ? explain methods to rectify them
7. (a) Describe the two types of general injection systems. Why an air injection system is no used now-a-days. [8+8]
- (b) Draw a typical heat release diagram of diesel engine and discuss its salient points.
8. (a) . Discuss the functions of lubrication in an engine? [8+8]
- (b) Explain the properties of the lubricator oil in detail?

II B.Tech I Semester Supplementary Examinations, November 2006
AUTOMOBILE ENGINEERING-I
(Automobile Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What are the general classes of combustion engines and how do they differ from in principle.
(b) Discuss the relative merits and demerits of internal combustion engines and external combustion engines. [6+10]
2. (a) What is scavenging ? Explain its working principle in two stroke engine with suitable diagrams ? [10+6]
(b) Explain the advantages and limitation of four stroke I.C. engine over two stroke explain.
3. (a) Differentiate between a dry timer and wet timer?
(b) What is piston clearance? Why is it necessary?
(c) What quality a piston must possess? [6+6+4]
4. (a) How to minimize the leakage of gases from the engine cylinder through the valve ports while valves are closed ? Explain [8+8]]
(b) Draw the diagram of crank case ? What are different components accomodated in crank case ?
5. (a) What is meant by carburetor? [4+8+4]
(b) Sketch a typical inductor system of a petrol engine.
(c) What are the factors which affect the process of carburetor?
6. (a) Classify different fuel delivery systems for petrol engine ? Explain. [8+8]
(b) What are different problems faced by fuel transfer pump ? explain methods to rectify them
7. (a) Describe the requirements of an ideal injection [4+12]
(b) Describe with the help of suitable sketches
 - i. Distubutor system
 - ii. Common rail system
 - iii. Jet-pump system
8. (a) . Discuss the functions of lubrication in an engine? [8+8]
(b) Explain the properties of the lubricator oil in detail?

II B.Tech I Semester Supplementary Examinations, November 2006
AUTOMOBILE ENGINEERING-I
(Automobile Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Differentiate between front wheel drive engine with rear wheel drive engine ?
(b) How to make use of diesel engine in power generation ? Explain with a simple layout. [8+8]
2. (a) What are different types of scavenging processes ? Explain [10+6]
(b) Define the term scavenging efficiency ? Explain methods to improve scavenging efficiency.
3. (a) Find out the material used for the following I.C. engine components.
 - i. Cylinder block
 - ii. Piston
 - iii. Connecting rod
 - iv. Crank shaft
(b) Explain the manufacturing details of above components. [8+8]
4. (a) Why is flywheel necessary in multicylinder engines? [6+6+4]
(b) What is valve tappet clearance? Why is it necessary?
(c) Describe a hydraulic valve lifter
5. (a) What is meant by carburetor? [4+8+4]
(b) Sketch a typical inductor system of a petrol engine.
(c) What are the factors which affect the process of carburetor?
6. (a) Differentiate between fuel injection systems for two stroke engines and fuel stroke engines [8+8]
(b) Explain theory of mixture control for petrol engines
7. (a) Describe the two types of general injection systems. Why an air injection system is no used now-a-days. [8+8]
(b) Draw a typical heat release diagram of diesel engine and discuss its salient points.
8. (a) What are the objectives of lubrication in automobile engines ? explain? [8+8]
(b) How two stroke engines are lubricated ? Explain with a suitable diagram.

II B.Tech I Semester Supplementary Examinations, November 2006
AUTOMOBILE ENGINEERING-I
(Automobile Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What are different types of power generation Explain plants ?
(b) Explain how the automobiles are useful in power generation. [8+8]
2. (a) What are the advantages of variable compression ratio engine. [6+10]
(b) Discuss the important designs of variable compression engine and comment on their salient points.
3. (a) Differentiate between a dry timer and wet timer?
(b) What is piston clearance? Why is it necessary?
(c) What quality a piston must possess? [6+6+4]
4. (a) What is the function of valve gear ? What are different valve gears used in automobiles ? [8+8]
(b) Is it necessary to have valve pap pets ? Describe valve seatings.
5. (a) What is meant by carburetor? [4+8+4]
(b) Sketch a typical inductor system of a petrol engine.
(c) What are the factors which affect the process of carburetor?
6. (a) Explain the working principle of petrol injection of S.I engine [8+8]
(b) What are different pumping devices used for S. I engine ? Explain
7. (a) Describe the two types of general injection systems. Why an air injection system is no used now-a-days. [8+8]
(b) Draw a typical heat release diagram of diesel engine and discuss its salient points.
8. (a) What are the objectives of lubrication in automobile engines ? explain? [8+8]
(b) How two stroke engines are lubricated ? Explain with a suitable diagram.
